Exhibit 17

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CYWEE GROUP LTD., ***Plaintiff,*** **v.** **GOOGLE, INC.,** ***Defendant.***	**CASE NO. 1:18-cv-00571-GMS** **PLAINTIFF'S OPPOSITITION TO DEFENDANT'S RULE 12(b)(6) MOTION TO DISMISS UNDER 35 U.S.C. § 101** **JURY TRIAL DEMANDED**

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I. INTRODUCTION

Google's Rule 12(b)(6) Motion to Dismiss Under 35 U.S.C. § 101 ("Motion") should be denied because it depends on a misinterpretation of the law and a misrepresentation of the inventions claimed in CyWee's asserted patents.

The logic underlying Google's motion is:

Legal Premise: Applied math is not patent eligible.

Factual Premise: CyWee's claims include applied math.

Conclusion: CyWee's claims are not patent eligible.

But Google's reasoning is fatally flawed because it incorrectly assumes there are *no patent eligible applications of math*. That is not the law. The Supreme Court has long held that "a process is not unpatentable simply because it contains a … mathematical algorithm" and that "an *application* of a … mathematical formula … may well be deserving of patent protection."[1]

To overcome its faulty legal premise, Google mischaracterizes CyWee's patents as being "directed merely to algorithms."[2] In reality, the claims of U.S. Patent 8,441,438 (the "'438 patent") and U.S. Patent 8,552,978 (the "'978 patent") are directed to novel and unconventional techniques of using *more motion sensors*—i.e., multiple accelerometers, gyroscopes, or magnetometers—to obtain raw data that allows its inventions to more accurately calculate the device's orientation than was previously possible. So, as Google concedes, the claims recite "*applying a mathematical algorithm* to determine the direction a device is pointed based on data from" multiple motion sensors.[3]

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[1] *Diamond v. Diehr*, 450 U.S. 175, 187 (1981) (emphasis in the original).
[2] Dkt. 9 at 10.
[3] Dkt. 9 at 5, 7 (emphasis added).

Importantly, the Federal Circuit recently analyzed a nearly identical invention —"a particular method of using the raw data from [inertial] sensors in order to more accurately calculate the position and orientation of an object on a moving platform"—and verified its patent eligibility. *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017). And the Southern District of California, in a co-pending case involving the same patents, recently denied LG's nearly identical motion to dismiss based on § 101.[4]

When relevant precedent is considered in the proper context, the law is properly applied, and the inventions at issue are correctly characterized, it's clear that Google's Motion must be denied.

II. RELEVANT FACTS

A. The technological problems solved by CyWee's patents.

The field of invention, mapping orientation and transforming movement of a portable electronic device in 3D space to a display, is highly complex and implicates a number of technological challenges.[5] As a result, the prior art devices had the following deficiencies:

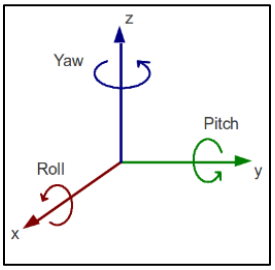
> The movement of the device could only be output in 2D, rather than a 3D reference frame.[6]
>
> The prior art devices could not accurately calculate and account for movements of the device in a dynamic environment, such as erroneous drift measurements or accelerations along with the direction of gravity.[7]
>
> The prior art devices were limited to detecting gravitational acceleration detected by the accelerometer and were therefore

[4] Declaration of Christopher L. Evans ("Evans Decl."), Ex. A; *see also* Dkt. 10-1.
[5] Dkt. 1-3: Declaration of Nicholas Gans, Ph.D. ("Gans Decl."), ¶ 33.
[6] Dkt. 1 at ¶ 30; '438 patent 2:47-55; '978 patent 2:41-58; Gans Decl., ¶ 26.
[7] Dkt. 1 at ¶ 30; '438 patent 2:55-62; '978 patent 2:58-66; Gans Decl., ¶ 26.

> incapable of accurately outputting the actual yaw, pitch, and roll angles.[8]
>
> Prior art pointer devices did not map the absolute movement pattern of the device when the device extended beyond the border or boundary of the display, but instead ignored the location outside the boundary, thereby resulting in uncompensated errors.[9]

The inventions claimed in the asserted patents overcame these limitations in a manner that departed from the then-existing art and was not well-known and conventional.[10] CyWee's patented technology.

The asserted patents,'438 and '978 each disclose and claim portable devices and new and useful techniques that use multiple motion sensors to more accurately calculate the 3D-orientation of a portable device using a "sensor fusion" technology.[11] Devices applying this technology and the inventions disclosed in the asserted patents include smartphones and navigation equipment.[12]



The '438 patent claims a device consisting of a six-axis motion sensor module, a data transmitting unit, and a computing processor that is operated according to a method that compensates for accumulated errors when tracking the device's motion and accurately maps the device's movements and location in space, *e.g.*, the yaw, pitch, and roll angles, onto a display frame.[13]

The '978 patent claims a device consisting of a nine-axis motion sensor module and two

[8] Dkt. 1 at ¶ 30; '438 patent 2:62-3:5; '978 patent 2:66-3:13; Gans Decl., ¶ 26.
[9] Dkt. 1 at ¶ 30; '438 patent 3:16-51; '978 patent 3:20-52; Gans Decl., ¶ 26.
[10] Gans Decl., ¶ 33.
[11] '438 patent, Abstract; '978 patent, Abstract; Gans Decl., ¶ 10.
[12] Gans Decl., ¶ 8; '438 patent, Fig. 6, 7:1-4; '978 patent, Fig. 6, 8:38-42.
[13] '438 patent 1:17-53, 3:52-57; Dkt. 1, ¶ 34; Gans Decl., ¶ 8.

computing processors that is operated according to a method that compensates for accumulated errors in tracking the motion of the device and transforms the 3D movements for a display, such as a 2D display on a smartphone.[14] Like the '438 patent, the motion sensor module of the '978 patent includes an accelerometer and gyroscope, but, unlike the '438 patent, it also includes as magnetometer.[15]

Each patent discloses and claims sensor fusion technology that incorporates data from multiple sensors and compensates for errors to more accurately track orientation, which can be mapped to a display.[16] The system disclosed and claimed in the '438 patent interactively and iteratively fuses "angular velocity measurements in the x, y, and z directions and axial acceleration measurements in the x, y, and z directions such that the measurements complement each other according to a specific algorithm."[17] The '978 patent adds magnetism to further increase accuracy.[18]

Both patents also disclose an unconventional, seven-step process that utilizes data collected from multiple motion sensors to measure the 3D pointing device's movement and "compensating" the sensor's outputs using quaternions to improve accuracy of orientation calculation:

[14] '978 patent 1:22-27, 7:5-18; Dkt. 1, ¶ 118; Gans Decl., ¶ 8.
[15] Gans Decl., ¶ 11; '978 patent 4:15-32, Claims 1, 10.
[16] Gans Decl., ¶ 10.
[17] Gans Decl., ¶ 27; '438 patent, Claim 1, 14.
[18] Gans Decl., ¶ 27; '978 patent, Claims 1, 10.

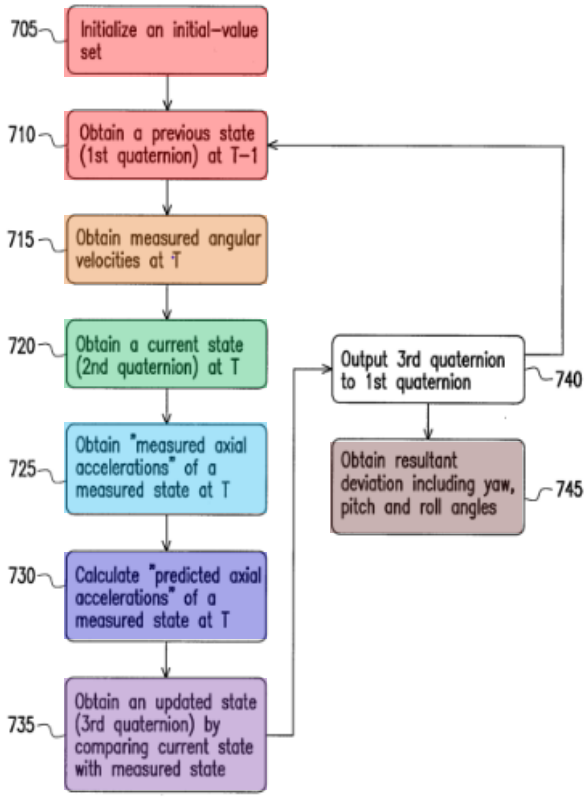


FIG. 7

1. Obtain a first quaternion[19] representing the previous state.

2. Obtaining measured angular velocities from the gyroscopes (or other rotation sensors).[20]

3. Convert the angular velocities into the second quaternion representing the current state.[21]

4. Obtaining measured axial accelerations from the accelerometers.[22]

5. Calculate a predicted set of axial accelerations based on the current state.[23]

6. Compare the predicted and measured axial accelerations to the second quaternion to obtain the third quaternion representing the updated state.[24]

7. Obtain resulting deviation, including yaw, pitch and roll angles.[25]

This seven-step process maps directly onto claim 14 of the '438 patent:

> 14. A method for obtaining a resulting deviation including resultant angles in a spatial pointer reference frame of a three-dimensional (3D) pointing device utilizing a six-axis motion sensor module therein and subject to movements and rotations in dynamic environments in said spatial pointer reference frame, comprising the steps of:
> obtaining a previous state of the six-axis motion sensor module; wherein the previous state includes an initial-value set associated with previous angular velocities gained from the motion sensor signals of the six-axis motion sensor module at a previous time T−1;

[19] Quaternions have special mathematical properties that allow them to describe rotations efficiently.
[20] '438 patent 12:31-35.
[21] '438 patent 12:40-45.
[22] '438 patent 12:64-13:1.
[23] '438 patent 13:1-11.
[24] '438 patent 13:25-49.
[25] '438 patent 14:47-15:7.

obtaining a current state of the six-axis motion sensor module by obtaining measured angular velocities ωx, ωy, ωz gained from the motion sensor signals of the six-axis motion sensor module at a current time T;
obtaining a measured state of the six-axis motion sensor module by obtaining measured axial accelerations Ax, Ay, Az gained from the motion sensor signals of the six-axis motion sensor module at the current time T and calculating predicted axial accelerations Ax′, Ay′, Az′ based on the measured angular velocities ωx, ωy, ωz of the current state of the six-axis motion sensor module without using any derivatives of the measured angular velocities ωx, ωy, ωz; said current state of the six-axis motion sensor module is a second quaternion with respect to said current time T; comparing the second quaternion in relation to the measured angular velocities ωx, ωy, ωz of the current state at current time T with the measured axial accelerations Ax, Ay, Az and the predicted axial accelerations Ax′, Ay′, Az′ also at current time T;
obtaining an updated state of the six-axis motion sensor module by comparing the current state with the measured state of the six-axis motion sensor module; and
calculating and converting the updated state of the six axis motion sensor module to said resulting deviation comprising said resultant angles in said spatial pointer reference frame of the 3D pointing device.

The result of claim 14's unconventional process is "a more accurate orientation estimate," as admitted by Google's expert Dr. Sarrafzadeh.[26]

III. APPLICABLE LEGAL STANDARDS

In adjudicating a motion to dismiss pursuant to Fed. R. Civ. P. 12(b)(6), the Court must "accept as true all allegations in the plaintiff's complaint as well as all reasonable inferences that can be drawn from them" that must be construed "in a light most favorable" to CyWee. *Tatis v. Allied Interstate, LLC*, 882 F.3d 422, 426 (3d Cir. 2018); *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1357 (Fed. Cir. 2018). The facts that must be considered include those recited in the complaint and those set forth in the exhibits to the complaint. *Mayer v. Belichick*, 605 F.3d 223, 230 (3d Cir. 2010). "At the motion to dismiss stage a patent claim can be found directed towards patent-ineligible subject matter if the ***only***

[26] Evans Decl., Ex. B at ¶ 34.

plausible reading of the patent must be that there is clear and convincing evidence of ineligibility." *Blackbird Tech LLC v. Advanced Discovery Inc.*, No. CV 16-413-GMS, 2017 WL 2734725, at *2 (D. Del. June 26, 2017) (emphasis added). And according to a plurality of the Federal Circuit "whether a claim element or combination of elements would have been well-understood, routine, and conventional to a skilled artisan in the relevant field at a particular point in time is a question of fact." *Aatrix Software*, 890 F.3d at 1355–56. And as a fact issue pertinent to the issue of patentability, it is Google's burden to prove by clear and convincing evidence. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

The Supreme Court has established a two-part test for determining whether claims are patent eligible. A determination must first be made as to whether the claims are "directed to patent-ineligible concept," such as an abstract idea. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355-56 (2014). The "directed to" inquiry of *Alice* step one requires the consideration of claims "in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (*quoting Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).) If not, the inquiry ends there. *McRO,* 837 F.3d at 1312; *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1349 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

If the claims are drawn to an abstract idea, the elements of the claims must still be examined both individually and "as an ordered combination" to address whether they contain an "inventive concept," such as "specific technologic modifications to solve a problem or improve the functioning of a known system." *Alice*, 134 S. Ct. at 2355; *McRO*, 837 F.3d at 1213; *Trading Tech. Int'l, Inc. v. CQG, Inc.*, 2017 WL 192716, at *3 (Fed. Cir. Jan.

18, 2017). At the motion to dismiss stage, claims are patent eligible where the allegations and evidence show that they "improve[] an existing technological process." *McRO*, 837 F.3d at 1312-13 (*quoting Alice*, 134 S. Ct. at 2358).

Here, the patents' specifications, factual recitations in CyWee's Complaint, and the factual opinions of Dr. Gans, which were attached as an exhibit to the Complaint, must be construed in the light most favorable to CyWee, the non-movant.

IV. ARGUMENT

First, the Court should limit its analysis to only the two claims Google specifically addresses in its Motion. Second, Google's patentability argument fails because it misstates the law and misrepresents CyWee's patented inventions. When the correct legal standard is applied to an accurate description of the claimed inventions it becomes clear that CyWee's claims are patentable.

A. Google's motion should be limited to the two claims it specifically addresses.

Google's Motion fails in the first instance because it addresses only one method claim of each asserted patent.[27] Each asserted patent also has device claims, and these claims are presumed valid until and unless proved to be invalid by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. Partnership*, 564 U.S. 91, 95 (2011). Google does not argue that these two claims are representative, so it has not met its "burden to establish a representative claim." *JSDQ Mesh Techs. LLC v. Fluidmesh Networks, LLC*, No. 16-CV-212-GMS, 2016 WL 4639140, at *2 (D. Del. Sept. 6, 2016) (Sleet, J.). Absent representative claims, Google must provide "meaningful analysis for each of the" challenged claims. *Id.* at *3 ("Because the

[27] Google does not allege that these two method claims are exemplary of all the claims of the asserted patents. *See generally* Dkt. 9.

parties dispute the representativeness of claim 47, Fluidmesh must provide more meaningful analysis for each of the non-representative claims."). Google's cursory analysis of the remaining 25 claims is not sufficient to render them invalid, particularly given the inherent differences between method and device claims.

B. The Supreme Court has long held that applied math is patent eligible.

Google's Motion should be denied because it is premised on the faulty legal premise that there are *no patent eligible applications of math*. Google argues that CyWee's patents are unpatentable because there is a "bright-line prohibition against patenting … mathematical formulas."[28] The problem is that Google's argument asks the Court to extend this prohibition on patenting math formulas to encompass all inventions that use mathematical formulas in any manner, which is contrary to decades of binding precedent.

The Supreme Court has long held that "a process is not unpatentable simply because it contains a … mathematical algorithm" and that "an *application* of a … mathematical formula … may well be deserving of patent protection."[29] This long-established principal was reiterated, not abandoned, by the Supreme Court in *Mayo*, which is the only case Google cites in support of its bright-line rule. [30]

Even *Flook* and *Digitech*, the cases Google relies most heavily on,[31] recognize that the application of a mathematical formula may be patentable:

> Yet it is equally clear that a process is not unpatentable simply because it contains a law of nature or a mathematical algorithm." *Parker v. Flook*, 437 U.S. 584, 590 (1978).

[28] Dkt. 9 at 1.
[29] *Diamond v. Diehr*, 450 U.S. 175, 187 (1981) (emphasis in the original).
[30] *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012); Dkt. 9 at 1.
[31] Dkt. 9 at 1, 10, 11, 14.

> In determining whether a process claim recites an abstract idea, we must examine the claim as a whole, keeping in mind that an invention is not ineligible just because it relies upon a law of nature or mathematical algorithm. As noted by the Supreme Court, "an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection." *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014).

The Court cannot overturn this binding precedent. Google's Motion should be denied because the Court must reject Google's invitation to create a new "bright-line prohibition" against patenting methods and apparatus claims that include an application, or implementation of math within a patentable system, method or device.

C. CyWee's patents do not claim mathematical algorithms.

Because the law squarely holds that applied math may be patentable, Google mischaracterizes CyWee's patents as claiming nothing more than mathematical algorithms:

> The claims of the '438 and '738 Patents recite nothing more than a mathematical algorithm for computing the orientation of a device, such as the claimed 3d pointing device.[32]
>
> The claim language thus recites nothing more than the algorithmic steps.[33]
>
> Because the claims are directed merely to algorithms, they are non-patentable abstract ideas.[34]
>
> The claims are not directed to these applications; instead, they are directed to an algorithm.[35]

But CyWee's patents do not claim mathematical formulas. Claim 14 of the '438 patent and claim 10 of the '978 are both directed to devices and methods utilizing data from

[32] Dkt. 9 at 1.
[33] *Id.* at 9.
[34] *Id.* at 10.
[35] *Id.* at 14.

multiple motion sensors—accelerometers, gyroscopes, and in the case of the '978 patent magnetometers—to more accurately calculate the orientation of a portable device.[36] And it was the addition of "more motion sensors" that allowed CyWee to overcome technical hurdles that prevented prior devices with fewer sensors or sensors that did not communicate with each other from calculating orientation accurately, which even Google's expert acknowledges.[37]

Google concedes this point by describing the claims in its "Statement of Facts" as "applying a mathematical algorithm" to data obtained from multiple motion sensors in its Motion:

> Simply put, Claim 14 of the '438 patent recites **applying a mathematical algorithm** to determine the direction a device is pointed based on data from the accelerometer and gyroscope.[38]
>
> Simply put, Claim 10 of the '978 patent recites **applying a mathematical algorithm** to determine the direction a device is pointed based on data from the accelerometer, gyroscope, and magnetometer, and moving a cursor on a display accordingly.[39]

Thus neither CyWee patent claims a mathematical algorithm.

D. The Federal Circuit analyzed a nearly-identical invention and found it patent eligible.

When examining patent eligibility under Section 101, the Federal Circuit has directed courts "to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided." *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016). Following this principal requires the Court to deny Google's Motion.

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[36] Gans Decl., ¶¶ 27-28.
[37] Evans Decl., Ex. B at ¶ 32, Ex. C at ¶ 33.
[38] Dkt. 9 at 5 (emphasis added).
[39] Dkt. 9 at 7 (emphasis added).

In a case involving a nearly identical invention—"a particular method of using the raw data from [motion] sensors in order to more accurately calculate the position and orientation of an object on a moving platform"—the Federal Circuit undertook a rigorous analysis and held that the claims are patent eligible. *Thales*, 850 F.3d at 1349.

Thales involved a patent to an inertial tracking system for tracking the motion of an object relative to a moving reference frame. *Id.* at 1344. The prior art systems produced inconsistent information based on the method used to fuse the measurement of motion and the error-correction data. *Id.* at 1345. The claimed method for overcoming the deficiencies of the prior art read as follows:

> 22. A method comprising determining an orientation of an object relative to a moving reference frame based on signals from two inertial sensors mounted respectively on the object and on the moving reference frame.[40]

The Federal Circuit analyzed the method claim together with the system claims and found them "nearly indistinguishable" from those the Supreme Court had previously found to be patent-eligible, despite the inclusion of a mathematical formula in the claimed method. *Id.* at 1348 (applying *Diamond v. Diehr*, 450 U.S. 175, 177 (1981)). The Federal Circuit found that while the claims utilized mathematical equations to determine orientation of the object, the equations were "dictated by the placement of the inertial sensors and the laws of physics," and "serve only to tabulate the position and orientation information in this configuration." *Id.* at 1348. The claims were therefore patent-eligible because they "specified a particular configuration of inertial sensors and a particular method of using raw data from those sensors to more accurately calculate the position and orientation of an object on a

[40] *Id.* at 1345-46.

moving platform." *Id.* at 1349. The claims sought "to protect only the application of physics to the unconventional configuration of sensors as disclosed," and were thus not directed to an abstract idea. *Id.*

As the closest factual case, the reasoning of *Thales* is controlling here and mandates denial of Google's Motion.

E. *Alice* Step One: The asserted patents are not directed to an abstract idea.

No further analysis should be necessary. Nevertheless, should the Court continue with the *Alice* step-one analysis it should conclude that the claims at issue are not directed to an abstract idea. The most important aspect of the step one analysis is to "articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful." *Thales*, 850 F.3d at 1347 (citing *Alice*, 134 S. Ct. at 2354). Google's Motion violates this basic rule.

Google begins with the premise that certain components of CyWee's inventions-accelerometers, gyroscopes, magnetometers, and combinations of those components-were known in the art at the time of the inventions.[41] It then argues that without these components the claims are "directed merely to algorithms" so they "are non-patentable abstract ideas."[42] As discussed above, this is not an accurate description of the claimed inventions. And this type of claim-stripping analysis was rejected by the Federal Circuit.

Like Google here, the U.S. Court of Federal Claims in *Thales* filtered out all the "generic inertial sensors and a receiving element" of the claimed inventions in order to reach a conclusion that the claims "are directed to mathematical equations."[43] The Federal Circuit

[41] Dkt. 9 at 9-10.
[42] *Id.* at 10.
[43] *Thales Visionix, Inc. v. United States*, 122 Fed. Cl. 245, 252 (2015).

rejected this approach.

In finding the claims patent-eligible, the Federal Circuit reiterated that "it is not enough to merely identify a patent-ineligible concept underlying the claim; we must determine whether that patent-ineligible concept is what the claim is 'directed to.'"[44] And just because "a mathematical equation is required to complete the claimed method and system does not doom the claims to abstraction."[45] The *Thales* patents were found patent-eligible because they provided "multiple advantages" over the prior art, including "reduc[ing] errors in measuring the relative position and orientation of a moving object."[46]

Here, like *Thales*, CyWee's asserted patents claim portable devices and new and useful techniques that combine data from multiple motion sensors to more accurately calculate the 3D-orientation of a portable device through "sensor fusion" technology.[47] Like *Thales*, the claims of CyWee's asserted patents utilize combinations of accelerometers, gyroscopes, and magnetometers.[48] Like *Thales*, the claims of CyWee's asserted patents depart from the approach of the prior art, *e.g.*, in calculating and outputting absolute movements, not just relative movements, of the device.[49] Like *Thales*, the claims of CyWee's asserted patents have an "unconventional utilization" of motion sensors because they utilize more motion sensors than the prior art.[50] Like *Thales*, the claims of CyWee's asserted patents "specify a particular configuration of … sensors and a particular method of using the raw data from

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[44] *Id.* at 1349.
[45] *Id.*
[46] *Id.* at 1345, 1348.
[47] *Supra* § I(A) & I(B); '438 patent, Abstract; '978 patent, Abstract; Gans Decl., ¶ 10.
[48] Gans Decl., ¶¶ 8-11.
[49] Gans Decl., ¶ 33; '438 patent 4:6-19, Claims 1, 14; '978 patent 4:15-32, Claims 1, 10.
[50] *Thales*, 850 F.3d at 1348; Gans Decl., ¶¶ 26-28; '438 patent 2:47-3:51, 4:5-19; '978 patent 2:41-3:52, 4:15-32; Evans Decl., Ex. B at ¶ 32; Evans Decl., Ex. C at ¶ 33.

the sensors in order to more accurately calculate the position and orientation of" the claimed device.[51]

In yet another analogous case, the Federal Circuit found patent-eligible claims of patents relating to "automating part of a preexisting 3-D animation method," namely, synchronizing movement of animated lips and faces with the associated speech. *McRO*, 837 F.3d at 1303 (Fed. Cir. 2016). The Federal Circuit rejected the analysis of the invention that "attempted to 'factor out conventional activity,'" and considered the claims "in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." *Id.*, at 1309, 1312. In so doing, the Federal Circuit found that the claims were directed to a "distinct process to automate a task [synchronized animation] previously performed by humans," which process was based on a set of claimed rules that improved the existing technological process of computer animation. *Id.* at 1314-15. The rules went beyond merely organizing information because they rendered information in a specific format that was then used to create desired results. *Id.* at 1315. The defendants in *McRO* argued that any "rules-based lip-synchronization process" would be covered by the patent claims, but the court rejected that argument because there was no record evidence to support that conclusion, only attorney argument. *Id.*

McRO further mandates that Google's Motion must be denied because when the claims of the asserted patents are considered as a whole, and without the artificial filtering used by Google, it is clear that the alleged abstract idea is actually the application of algorithms to improve performance.[52]

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[51] *Thales*, 850 F.3d at 1349; *Supra* § 1(A) & I(B).
[52] *See* Gans Decl., ¶ 34.

In the end, the claims addressed by Google in their Motion and the arguments made regarding those claims are strikingly similar to those in *Diamond v. Diehr*. In *Diehr*, the claims were directed to determining the curing time for rubber by using the Arrhenius equation, a well-known mathematical operation. 450 U.S. 175, 177 (1981). The equation itself was not patent-eligible, but the claimed invention was because it applied the equation to reduce "overcuring" or "undercuring" in a way that was previously unknown in the art, resulting in an improved technological process. *Id*. at 187, 191-92. The same is true here: the claimed inventions apply mathematical equations as part of a system that tracks movements in 3D space (*e.g.*, acceleration, rotation, and velocity), corrects and compensates for errors in the measurement of those movements using a specific sensor fusion technology, maps or transforms that movement for use in a 2D reference frame, such as a 2D display, and reduces errors in tracking and mapping the movement. Such claims are patent-eligible.

As the relevant and controlling precedent, including recent decisions of the Federal Circuit, makes clear, Google's analysis is legally and factually incorrect. Under the correct legal standard, the asserted claims are patent-eligible.

F. Alice Step Two: The claims of the asserted patents claim specific technological advancements that improve the operation of existing systems.

Because, as noted above, the asserted patents are not directed to an abstract idea, there is no need for further analysis. *Thales*, 850 F.3d at 1349.

Google's arguments regarding the inventive concepts of the asserted patents merely repeat in truncated form their abstract idea analysis that the claims do not disclose "any claim elements that go beyond the mathematical algorithm, and thus fail to disclose

anything 'more than the abstract idea itself.'"[53] As discussed above, this is simply not true.

As Google's expert admits, CyWee's inventions use "more motion sensors" than the prior art devices to measure the 3D pointing device's movement, "compensates" the sensors' data to correct for various errors inherent to each type of sensor, and then uses that data to calculate the device's orientation more accurately than was previously possible. This is significantly more than just a mathematical algorithm. Whether these claim elements or combination of elements "would have been well-understood, routine, and conventional to a skilled artisan in the relevant field at a particular point in time is a question of fact." *Aatrix Software*, 890 F.3d at 1355–56. And the Court must construe all facts in CyWee's favor.

The Complaint, patents, and Declaration of Dr. Gans all contain factual allegations, that must be accepted as true at this stage, demonstrate that this combination of claim elements is a novel improvement over the prior art.[54] Accordingly, CyWee's patents claim "specific technologic modifications to solve a problem or improve the functioning of a known system," which is a sufficiently "inventive concept" to meet the patent eligibility threshold of *Alice*. *McRO*, 837 F.3d at 1314.

V. CONCLUSION

To grant Google's Motion the Court must disregard binding Federal Circuit and Supreme Court precedent and create a new *per se* rule that there are *no patent-eligible applications of math regardless of what else is claimed*. That is not the law, nor should it be. CyWee's patents are directed to new and useful devices and techniques that use *multiple* motion sensors to more accurately calculate the 3D-orientation of a portable device. The

[53] Dkt. 9 at 15.
[54] Gans Decl. at ¶¶ 26-28; Dkt. 1 at ¶¶ 14-30, 35, 119; '438 patent 1:28-6:41; '978 patent 1:29-8:12.

Federal Circuit has already analyzed and found that a nearly identical invention was patent-eligible. Therefore, Google's Motion should be denied.

Dated: July 9, 2018

Respectfully submitted,

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